

REMARKS

Claims 178 to 246 have been cancelled. Claims 247-257 have been added. No new matter has been added. The Office Action is discussed below.

CLAIM REJECTIONS UNDER 35 USC 112, 102 AND 103**PARAGRAPHS 2-12 OF OFFICE ACTION**

In view of the cancellation of claims 178-246, the claim objections under 35 USC 112 (paragraphs 2 and 3 of Office Action), 35 USC 102 (paragraphs 5, 6, 7 and 9 of the Office action), 35 USC 103 (paragraphs 11 and 12 of the Office Action) have been overcome and applicant requests they be removed.

DOUBLE PATENTING**PARAGRAPHS 13-14 OF OFFICE ACTION**

A terminal disclaimer is provided.

ANALYSIS OF NEW CLAIMS 247-257 WITH REGARD TO CITED**REFERENCES****Gonzalez (US 5,854,102)**

Gonzalez (Fig. 8) discloses a memory element that includes plug 38 of polysilicon. Gonzalez fails to teach or suggest a cup-shaped electrical contact or a cup-shaped conductive layer as claimed by applicant in claims 247 and 251.

Doan (US 6,423,621)

Doan (Fig. 14) is directed to a method of forming a memory element wherein the lower electrode includes a tip (114) protruding toward the memory material. However, Doan fails to teach or suggest a cup-shaped electrical contact or a cup-shaped conductive layer as claimed by applicant in claims 247 and 251.

Ovshinsky (US 5,687,112)

Ovshinsky '112 (Figs. 1 and 2) is directed to an electrical contact that tapers to a peak adjacent to a memory material. Ovshinsky '112 also fails to teach or suggest a cup-shaped electrical contact or a cup-shaped conductive layer as claimed by applicant in claims 247 and 251.

Ovshinsky (5,414,271)

Ovshinsky '271 (Fig. 1) shows a cup-shaped conductive layer 32,34 having a open end facing away from substrate 16. However, Ovshinsky fails to teach or suggest the limitation "a dielectric material formed over the interior surface of said contact" as recited in independent claim 247 and the limitation "a dielectric material formed over the interior surface of said conductive layer" as recited in claims 251. In contrast, Ovshinsky '271 teaches a memory material 36 of chalcogenide deposited over the interior surface of cup-shaped structure formed by layer 32,24 (see column 16, line 42).

In view of the above remarks, each of the references Gonzalez, Doan, Ovshinsky '112 and Ovshinsky '271, either alone or in combination, fails to teach or suggest the limitations of applicant's new independent claims 247 or 251. Claims 248-250 depend from claim 247 and claims 252 to 257 depend from claim 251. Hence, the cited references fail to teach or suggest all of the limitations of any of the dependent claims.

SUMMARY

Claims 178-246 have been cancelled and claims 247-257 have been added. Applicant respectfully requests reconsideration, withdrawal of the outstanding rejections, and notifications of allowance. Should the Examiner have any questions or suggestions regarding the prosecution of this application, he is asked to contact applicant's representative at the telephone number listed below.

Respectfully submitted,

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